

## **ABSTRACT**

A ballast resonant inverter with a self-oscillating driver IC powers and dims a gas discharge lamp. A feedback circuit automatically adjusts IC oscillator frequency for safe and stable inverter operation above the resonant frequency following changes in the resonant load. The feedback signal is derived from resonant inverter output voltage, by attenuating, programmed phase shifting and injecting the resulting signal in a timing circuit of the IC. The feedback circuit includes an active inverter circuit or passive RC phase boosting networks coupled in series. Phase control of the feedback signal by variable RC networks is used in transient modes of ballast-lamp operations.